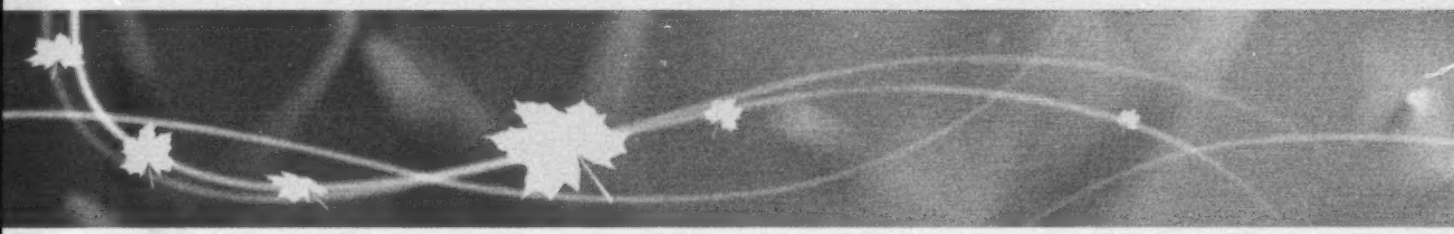
Environment Canada Environnement Canada



The Status of Wild Species in Canada

Species at Risk Act General Status Report Overview Document 2003–2008

Canada

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Introduction

Species at Risk Act *Background*

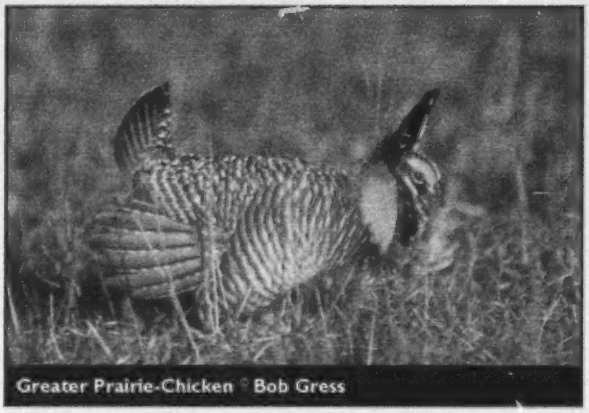
The purposes of the *Species at Risk Act* (SARA) are to prevent wildlife species from being extirpated[1] or becoming extinct, to provide for the recovery of wildlife species that are extirpated, endangered or threatened as a result of human activity, and to manage species of special concern to prevent them from becoming endangered or threatened.

The Act defines the processes for assessing the status of species; identifying and listing species as extirpated, endangered, threatened or special concern; and protecting listed wildlife species, their critical habitat and residences.[2]

Federal and provincial/territorial governments share the responsibility for the conservation and protection of wildlife in Canada. The federal government is responsible for aquatic species (i.e. fish, marine mammals and marine plants), terrestrial species situated on federal lands, and most migratory birds. Provincial and territorial governments have primary responsibility for other wildlife species.

SARA General Status Reports

SARA requires that a general report on the status of wildlife species be prepared five years after section 128 comes into force (2003) and every five years thereafter. The purpose of the report is to provide Canadians with an overview on which wild species are doing fine, which to keep an eye on, and which need to be formally assessed by the Committee on the Status of Endangered Wildlife in Canada (COSEWIC). COSEWIC is a committee of experts that assesses the national status of wild Canadian species that are suspected of being at risk of global extinction or extirpation from Canada. This document, *The Status of Wild Species in Canada* (SARA General Status Report 2003–2008: Overview Document), fulfils the Minister of the Environment's obligation under SARA to provide a general report on Canada's wildlife.

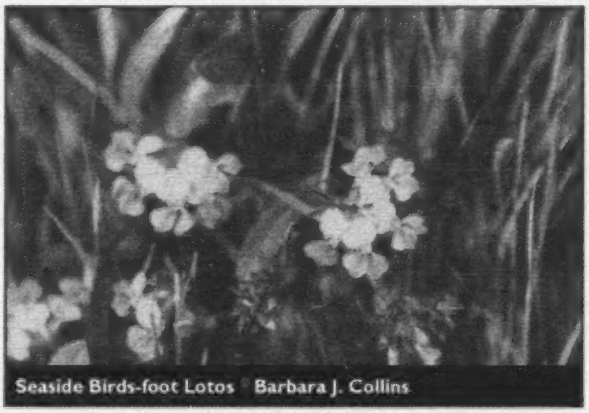


Greater Prairie-Chicken © Bob Gress

The 2008 SARA General Status Report is based largely on the *Wild Species 2005* report, prepared by a federal-provincial-territorial group of experts. It also provides an update on general status ranks[3] since the release of the *Wild Species 2005* report, primarily resulting from new assessments from the Committee on the Status of Endangered Wildlife in Canada.

For more detailed information about *Wild Species 2005*, the reader is invited to visit the Wild Species website at www.wildspecies.ca.

For more information about the Committee on the Status of Endangered Wildlife in Canada, the reader is invited to visit the COSEWIC website at www.cosewic.gc.ca.



Seaside Birds-foot Lotos © Barbara J. Collins

Findings from the *Wild Species 2005* Report

Wild Species 2005 presented general status assessments[4] for 7732 species from all provinces, territories, and ocean regions. It includes fishes, amphibians, reptiles, birds, mammals, plants, freshwater mussels, crayfishes, odonates (i.e. dragonflies and damselflies), and one group of beetles called the tiger beetles.

The *Wild Species 2005* report indicates that overall, 70% of Canada's wild species are ranked *Secure* (Table 1). This number varies considerably among groups of species. For eight of the ten groups in this report, at least 65% of species have a Canada rank of *Secure*. For the two remaining groups, however, this figure is much lower. Only 37% of freshwater mussels have a Canada rank of *Secure*, while for reptiles, only 31% of species have a Canada rank of *Secure* (Figure 1).

One of the issues highlighted in *Wild Species 2005* is the large number of non-native or *Exotic* species in Canada. These are species introduced into Canada by humans. *Exotic* species have been brought to Canada, both deliberately and accidentally, from around the world, and can have damaging impacts on native species. Some examples of such impacts are competing for space and resources, preying on native wildlife, and introducing new diseases. Of the 7732 species assessed in this report, 16% are ranked *Exotic*. Of the groups covered in this report, the plants have the highest proportion of *Exotic* species (24%).

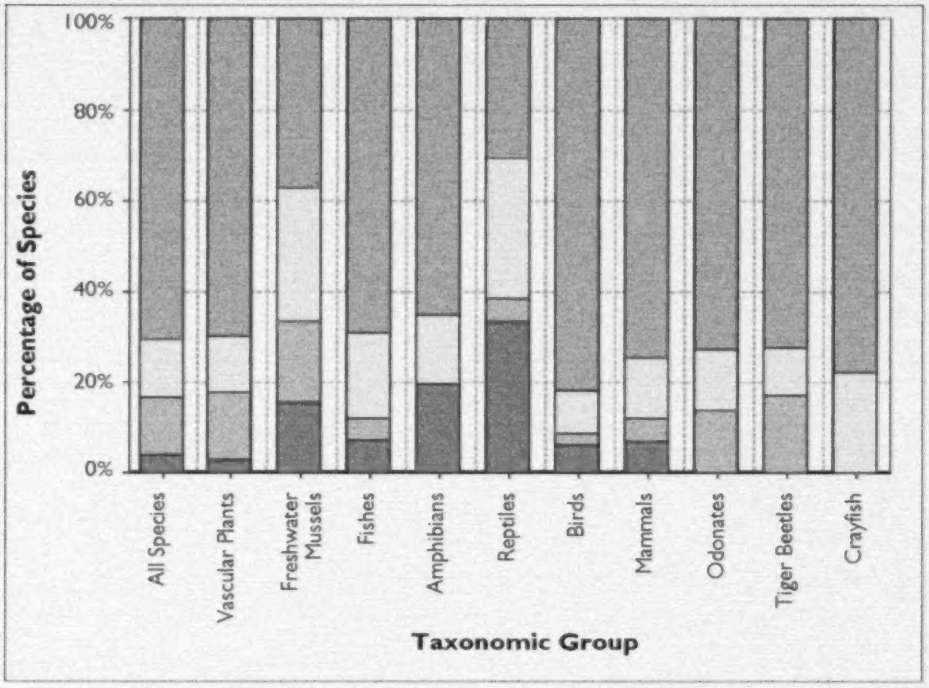
Peregrine Falcon © Dr. Gordon Court

Table 1: Summary of 2005 Canada general status ranks (Canada ranks) by taxonomic group.

Rank	All Species	Vascular Plants	Freshwater Mussels	Crayfish	Odonates	Tiger Beetles	Fishes	Amphibians	Reptiles	Birds	Mammals
Extirpated	30	22	1	0	0	0	2	0	3	1	1
Extinct	5	0	0	0	0	0	1	0	0	3	1
At Risk	206	110	8	0	0	0	26	9	13	27	13
May Be At Risk	634	552	9	0	28	5	16	0	2	12	10
Sensitive	657	460	15	2	27	3	65	7	12	41	25
Secure	3541	2572	19	7	145	21	238	30	12	358	139
Undetermined	534	112	2	0	7	1	395	0	1	5	11
Not Assessed	465	30	1	0	0	0	434	0	0	0	0
Exotic	1254	1216	0	2	0	0	12	0	2	11	11
Accidental	406	0	0	0	2	0	200	0	2	195	7
Total	7732	5074	55	11	209	30	1389	46	47	653	218

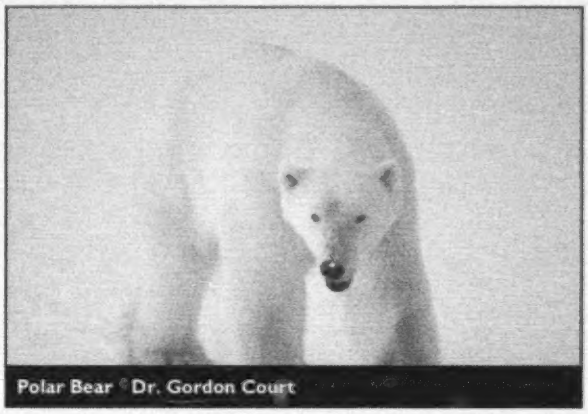
Table 1: from the *Wild Species 2005* Executive Summary. Definitions of general status categories are included in Endnote 3.
Source: *Wild Species 2005* Executive Summary. www.wildspecies.ca/wildspecies2005/index.cfm?lang=e&sec=10 .

Figure 1: Comparison of the 2005 Canada general status ranks (Canada ranks), among groups of species. Species ranked *Extinct*, *Extirpated*, *Undetermined*, *Not Assessed*, *Exotic* and *Accidental* are not shown.



Source: *Wild Species 2005* Executive Summary. www.wildspecies.ca/wildspecies2005/index.cfm?lang=e&sec=10 .

Coastal Giant Salamander © Suzanne L. Collins



Polar Bear © Dr. Gordon Court

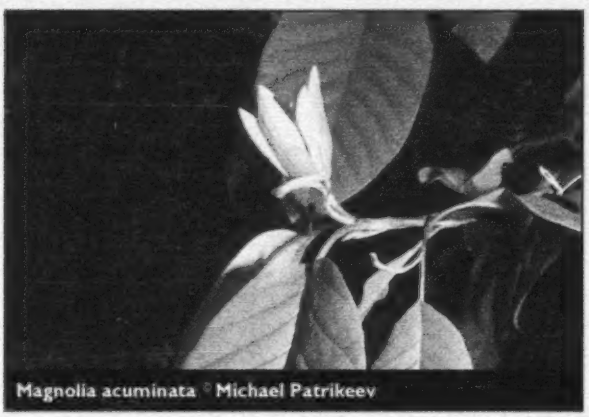
Comparing Results from *Wild Species 2000* and *2005*

Wild Species 2000 presented general status assessments of 1685 species and *Wild Species 2005* covered 7732 species. A total of 1330 species are assessed in both *Wild Species* reports. *Wild Species 2005* did not reassess butterflies (285 regularly occurring species in Canada); this was the primary reason that there were not 1685 species for comparison. Of the 1330 species that were assessed in both 2000 and 2005, 12% have been assessed with a different Canada rank in *Wild Species 2005*.

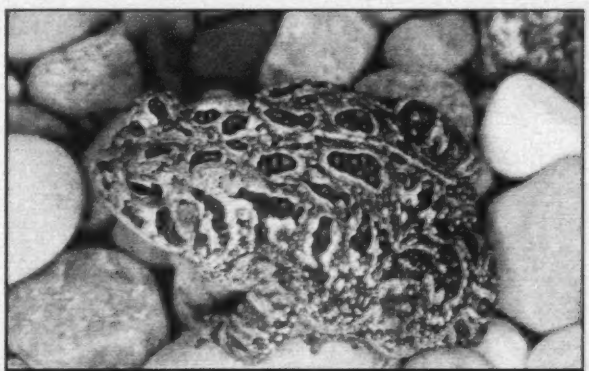
In total, 39% of the changes involved species moving into a rank of increased level of risk, 31% of changes involved species moving into a rank of reduced level of risk, and 30% involved species moving into or out of the *Undetermined*, *Not Assessed*, *Accidental* or *Extirpated* categories.

Changes in process (e.g. changes to definitions, criteria) or new or updated COSEWIC assessments led to most of the changes in Canada rank (40% and 33% respectively). Biological change since 2000 (e.g. observed change in species population) led wholly or partly to only 6% of changes. Of the 6% where change was due to biology, 50% of the species (i.e. five species) moved into a higher level of risk and 50% into a lower level of risk.

The ongoing reassessment of species, documented in subsequent *Wild Species* reports, will make it possible to identify trends in a species' status over time, in other words how the species is doing over the long term.



Magnolia acuminata © Michael Patrikeev



Fowler's Toad © Gary Allen

Banded Killifish © Konrad Schmidt

General Status Rank Updates

Since *Wild Species 2005* was completed, COSEWIC has produced two annual reports that included 110 COSEWIC species assessments. As a result, 18 species included in *Wild Species 2005* have since had a COSEWIC assessment[5] change that led to a general status rank update. The remaining 92 COSEWIC species assessments did not necessitate rank updates. Appendix II provides a comparison of general status categories and COSEWIC status categories to demonstrate the relationship between these two assessment processes.

The rank updates for these 18 species (Table 2) do not have a significant impact on the general status analyses presented in the *Wild Species 2005* report (7732 species covered in the report). Accordingly, the results and main summary tables presented in this overview document and the full *Wild Species 2005* report have not been changed.

The rank updates have been recorded in the General Status database, accessible through the

Table 2: Canada rank updates since the release of *Wild Species 2005*.

TAXON	SCIENTIFIC NAME	COMMON NAME	CANADA RANK IN *WILD SPECIES 2005*	RANK UPDATE DUE TO RECENT COSEWIC ASSESSMENT
Odonates (dragonflies and damselflies)	*Gomphus quadricolor*	Rapids Clubtail	2. May Be At Risk	1. At Risk
Birds	*Melanerpes erythrocephalus*	Red-headed Woodpecker	2. May Be At Risk	1. At Risk
Birds	*Buteo regalis*	Ferruginous Hawk	2. May Be At Risk	1. At Risk
Birds	*Wilsonia canadensis*	Canada Warbler	4. Secure	1. At Risk
Mammals	*Enhydra lutris*	Sea Otter	1. At Risk	3. Sensitive
Freshwater Mussels	*Truncilla donaciformis*	Fawnsfoot	2. May Be At Risk	1. At Risk
Reptiles	*Phrynosoma hernandesi*	Greater Short-horned Lizard	2. May Be At Risk	1. At Risk
Reptiles	*Glyptemys insculpta*	Wood Turtle	3. Sensitive	1. At Risk
Vascular Plants	*Frasera caroliniensis*	American Columbo	3. Sensitive	1. At Risk
Vascular Plants	*Isoetes bolanderi*	Bolander's Quillwort	2. May Be At Risk	1. At Risk
Vascular Plants	*Enemion biternatum*	False Rue-anemone	3. Sensitive	1. At Risk
Vascular Plants	*Chenopodium subglabrum*	Smooth Goosefoot	2. May Be At Risk	1. At Risk
Vascular Plants	*Plagiobothrys figuratus*	Fragrant Popcornflower	2. May Be At Risk	1. At Risk
Vascular Plants	*Uropappus lindleyi*	Lindley's False Silverpuffs	2. May Be At Risk	1. At Risk
Vascular Plants	*Centaurium muehlenbergii*	Muhlenberg's Centaury	2. May Be At Risk	1. At Risk
Vascular Plants	*Carex tumulicola*	Foothill Sedge	2. May Be At Risk	1. At Risk
Vascular Plants	*Lasthenia glaberrima*	Rayless Goldfields	2. May Be At Risk	1. At Risk
Vascular Plants	*Corydalis scouleri*	Scouler's Corydalis	1. At Risk	4. Secure

General Status Search Tool on the Wild Species website at www.wildspecies.ca and will be included in subsequent SARA section 128 and *Wild Species* reports.

Rank updates fell into one of two categories:

1. Since the *Wild Species 2005* report was produced, COSEWIC assigned a status category of Endangered or Threatened which led to a Canada rank of At Risk (16 species).

2. Since the *Wild Species 2005* report was produced, COSEWIC reassessed species that were previously *Endangered* or *Threatened* as *Special Concern* and *Not At Risk*. This led to a Canada rank of at least more secure than May Be At Risk (i.e. *Sensitive* and *Secure*) (two species).

Burrowing Owl © Dr. Gordon Court

Next Steps

SARA General Status Reports

For future reports, the *Wild Species* reports will be prepared to meet the reporting requirements set out in the *Species at Risk Act*. As such, the reporting cycle for the SARA General Status Report will shift and the next SARA General Status Report will be produced in 2010.

The *Wild Species 2005* report has greatly increased the number and variety of species assessed nationally. This report included 7732 species and additional groups of species. With the total number of species in Canada estimated to be more than 70,000, there are still many species left to be assessed.

Annually, the federal-provincial/territorial body that prepares *Wild Species* reports (in consultation with specialists) develops a priority list of species that will be ranked in upcoming reports. Future reports will expand the number and variety of species assessed, as well as continuing to update general status of species previously reported so that trends in species' status can be tracked through time.

Blanding's Turtle © Jeffie McNeil

Acknowledgements

The SARA General Status Report is based largely on *Wild Species 2005*. A federal-provincial/territorial working group, the National General Status Working Group (NGSWG), produced this report and the Canadian Endangered Species Conservation Council released it to the public. The work of the NGSWG members, support of associated jurisdictions, and a large group of specialists across Canada are acknowledged for their contributions to the *Wild Species* reports.

Poweshiek Skipperling © Robert P. Dana

Appendix 1

Process to Develop the Wild Species *Report Series*

To assess the general status of Canada's wildlife species, the Canadian Wildlife Directors Committee[6] created the National General Status Working Group (NGSWG) in 1998. The NGSWG is composed of representatives from each Canadian province and territory and the three federal agencies responsible for wildlife (Environment Canada, Fisheries and Oceans Canada, and Parks Canada). The NGSWG and the *Wild Species* reports stemmed from the 1996 Accord for the Protection of Species at Risk.[7]

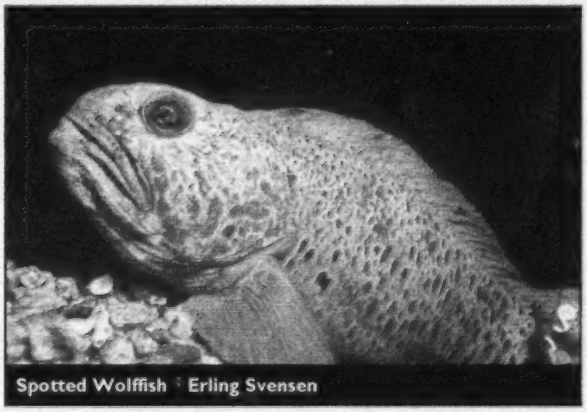
Figure 2 displays the process to develop the *Wild Species* report series. The NGSWG's provincial, territorial, and ocean region representatives are responsible for establishing lists of species that occur in their respective jurisdictions. These representatives are also responsible for gathering, compiling, and interpreting the information used to establish the provincial, territorial, or ocean region ranks for a given species. The NGSWG is responsible for assigning a Canada-wide rank: a national general status rank that interprets the overall general status of the species in Canada.

The team approach to general status assessment is especially important when carrying out provincial and territorial level assessments because the generation of Canada ranks is a "bottom-up" process with information being carried forward by the provincial/territorial representatives to the NGSWG. In other words, Canada ranks are decided upon after the provincial/territorial/ocean region general status ranks are finalized. General status assessment team members can be naturalists, scientists, researchers, Aboriginal people or other knowledgeable people.

Although general status assessments for all groups of species are generally carried out using the same process, there are cases where circumstances require alternative approaches for a given group of species and/or within a given territory, province, or ocean region. For example, both regional and national level[6] datasets are available for birds. For this group of species, Environment Canada data on migratory birds is fed into the process at both the provincial/territorial ranking stage and the stage of assigning Canada ranks.

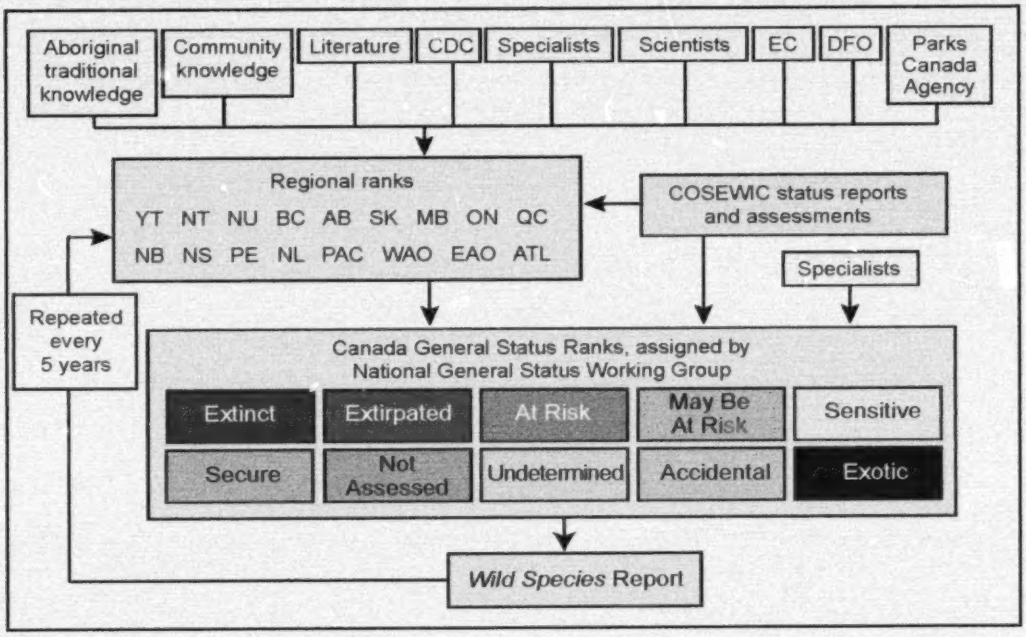
The NGSWG compiles the results of its general status assessments into a national database[8] and periodic reports. The general status ranks are an important source of information that informs the development of the Committee on the Status of Endangered Wildlife in Canada's[9] (COSEWIC) Candidate List, which is a list of priority species for consideration by this committee.

The NGSWG has developed guidelines that include provisions for aligning a species' general status rank with its COSEWIC status category.[10] Certain COSEWIC status categories result in the automatic assignment of a specific general status rank.



Spotted Wolffish © Erling Svensen

Figure 2: Diagram outlining how regional ranks (i.e. provincial, territorial, and ocean region ranks) and Canada ranks are generated. Regional ranks are generated by provincial/territorial representatives or by DFO (ocean region ranks). Canada ranks are generated by the NGSWG, based on the regional ranks and additional input from specialists.



List of Acronyms

AB: Alberta
ATL: Atlantic Ocean
BC: British Columbia
CDC: Conservation Data Centre (a centre that houses species data)
COSEWIC: Committee on the Status of Endangered Wildlife in Canada
DFO: Department of Fisheries and Oceans
EAO: Eastern Arctic Ocean
EC: Environment Canada
MB: Manitoba
NB: New Brunswick
NL: Newfoundland and Labrador
NT: Northwest Territory
NU: Nunavut
ON: Ontario
PAC: Pacific Ocean
PE: Prince Edward Island
QC: Quebec
SK: Saskatchewan
WAO: Western Arctic Ocean
YT: Yukon Territory

Source: Adapted from *Wild Species 2005* report. www.wildspecies.ca/wildspecies2005/index.cfm?lang=e&sec=20&view=8

Appendix II

Comparison of General Status Categories and COSEWIC Status Categories

COSEWIC status and general status categories are defined in Endnotes 1 and 3 respectively.

General Status Categories (Canada Ranks)	COSEWIC Status Categories	Comments
0.2 Extinct	Extinct	**Equivalent.** A species with a COSEWIC designation of *Extinct* automatically receives a Canada rank of *Extinct*.
0.1 Extirpated	Extirpated	**Equivalent.** A species with a COSEWIC designation of *Extirpated* automatically receives a Canada rank of *Extirpated*.
1. At Risk	Endangered	**Equivalent.** A species with a COSEWIC designation of *Endangered* automatically results in a Canada rank of *At Risk*.
	Threatened	**Equivalent.** A species with a COSEWIC designation of *Threatened* automatically results in a Canada rank of *At Risk*.
2. May Be At Risk[3]	Special Concern[1]	**Similar, but not directly equivalent to a *Special Concern*.** In most cases, a *May Be At Risk* species will not have been assessed by COSEWIC.
3. Sensitive[3]	Special Concern[1]	**Similar, but not directly equivalent to a *Special Concern*.** In most cases, a *Sensitive* species will not have been assessed by COSEWIC.
4. Secure[3]	Not At Risk[1]	**Similar, but not directly equivalent to a *Not At Risk*.** In most cases, a *Secure* species will not have been assessed by COSEWIC.
5. Undetermined[3]	Data Deficient[1]	**Similar, but not directly equivalent to a *Data Deficient*.** In most cases, an *Undetermined* species will not have been assessed by COSEWIC.
6. Not Assessed		**COSEWIC does not have a similar category.**
7. Exotic		**COSEWIC does not have a similar category.** COSEWIC would normally only consider native species (i.e. a wild species that occurs in Canada naturally, or that has expanded its range into Canada without human intervention from a region where it naturally occurred, has produced viable populations, and has persisted in Canada for at least 50 years).
8. Accidental		**COSEWIC does not have a similar category.** COSEWIC would normally only consider species which occur or formerly have occurred regularly in Canada, excluding vagrants (i.e. species which occur outside of Canada, and just occasionally are sighted in Canada).

Endnotes

1 The COSEWIC status categories are as follows (taken from www.cosewic.gc.ca):
Extinct (X) — A wildlife species that no longer exists.
Extirpated (XT) — A wildlife species that no longer exists in the wild in Canada, but exists elsewhere.
Endangered (E) — A wildlife species facing imminent extirpation or extinction.
Threatened (T) — A wildlife species likely to become endangered if limiting factors are not reversed.
Special Concern (SC) — A wildlife species that may become a threatened or an endangered species because of a combination of biological characteristics and identified threats.
Data Deficient (DD) — A category that applies when the available information is insufficient (a) to resolve a wildlife species' eligibility for assessment or (b) to permit an assessment of the wildlife species' risk of extinction.
Not At Risk (NAR) — A wildlife species that has been evaluated and found to be not at risk of extinction given the current circumstances.

2 SARA related information, news and documents are stored and updated on the SARA Public Registry: www.sararegistry.gc.ca.

3 The general status categories are as follows (taken from www.wildspecies.ca):
0.1 - Extirpated — species that have disappeared from (or are no longer present in) a given geographic area but occur in other areas. Species listed by COSEWIC as nationally Extirpated automatically receive an Extirpated general status rank. This general status rank applies at the national level and in whichever province/territory/ocean region the species formerly existed.
0.2 - Extinct — species that are extirpated worldwide (i.e. they no longer exist anywhere). Species listed by COSEWIC as nationally Extinct automatically receive an Extinct general status rank. This general status rank applies at the national level and in whichever province/territory/ocean region the species formerly existed.
1 - At Risk — species for which a formal detailed risk assessment (COSEWIC assessment or provincial or territorial equivalent) has been completed and that have been determined to be at risk of extirpation or extinction (i.e. Endangered) or is likely to become at risk of extirpation or extinction if limiting factors are not reversed (i.e. Threatened). A COSEWIC designation of Endangered or Threatened automatically results in a general status rank of At Risk nationally. Where a provincial or territorial formal risk assessment finds a species to be Endangered or Threatened in that particular region, then, under the general status system, the species automatically receives a provincial or territorial general status rank of At Risk.
2 - May Be At Risk — species that may be at risk of extirpation or extinction and are therefore candidates for a detailed risk assessment by COSEWIC or provincial or territorial equivalents.
3 - Sensitive — species that are not believed to be at risk of extirpation or extinction but may require special attention or protection to prevent them from becoming at risk.
4 - Secure — species that are not believed to belong in the categories At Risk, May Be At Risk, Extirpated, Extinct, Accidental, and Exotic. This category includes some species that show a trend of decline in numbers in Canada but remain relatively widespread or abundant. In such instances, the decline will be highlighted by an asterisk and an associated comment.
5 - Undetermined — species for which insufficient data, information, or knowledge is available with which to reliably evaluate their general status.
6 - Not Assessed — species that are known or believed to be present in the geographic area in Canada to which the general status rank applies but have not yet been assessed.
7 - Exotic — species that have been moved beyond their natural range as a result of human activity. In this report, Exotic species have been purposefully excluded from all other categories.
8 - Accidental — species occurring infrequently and unpredictably outside their usual range.

4 The biological reporting unit in the *Wild Species 2005* report is the whole species. This is commonly considered to mean populations of organisms that do not usually interbreed with other populations, even where they overlap in space and time. This is different from the definition used by COSEWIC, as described in section 2 of SARA which defines a "wildlife species" as "a species, subspecies, variety or geographically or genetically distinct population of animal, plant or other organism, other than a bacterium or virus, that is wild by nature and (*a*) is native to Canada; or (*b*) has extended its range into Canada without human intervention and has been present in Canada for at least 50 years."

The organizing body which oversees preparation of *Wild Species* reports selected whole as its unit for general status ranks for the *Wild Species* reports for several reasons. For one, whole species are the most common and recognizable units of biological classification used in conservation. While some divisions below the species level may deserve protection, there is less agreement over the precise limits and biological significance of differences observed at this

finer scale. Moreover, technical, financial, and human resource limitations make it unfeasible to examine all species closely enough to distinguish candidate subspecies or populations or to determine their status.

Therefore, this report contains general status ranks only for species and not for subspecies or distinct populations.

5 COSEWIC status reports are available at: www.cosewic.gc.ca.

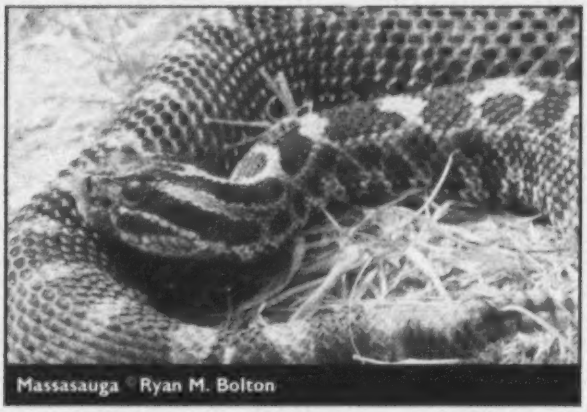
6 The Canadian Wildlife Directors Committee consists of the directors of wildlife of each province and territory, the five regional directors and Director General of the Canadian Wildlife Service, and one representative each of Fisheries and Oceans Canada and the Parks Canada Agency.

7 In October 1996, federal, provincial, and territorial ministers responsible for wildlife supported the creation of the Accord for the Protection of Species at Risk, which lays out basic principles of species conservation as well as a number of commitments to protect species at risk. For more information: http://www.sararegistry.gc.ca/approach/strategy/accord_text_e.cfm (4 November 2008).

8 The General Status Search Tool on the Wild Species website at www.wildspecies.ca provides real-time access to the general status ranks generated by the NGSWG. The search tool can be accessed at: www.wildspecies.ca/wildspecies2005/search.cfm?lang=e&sec=9.

9 For more information visit the COSEWIC website at www.cosewic.gc.ca.

10 General status assessment categories differ from those employed by COSEWIC. General status assessments use a coarse-filter approach in order to assess the greatest number of species possible. This requires a greater number of status categories in order to most accurately describe a species' status. Species assigned a general status rank of *May Be At Risk* are candidates for a detailed risk assessment by COSEWIC (or provincial or territorial equivalents). Definitions of the criteria used in the general status ranking procedure follow Harper et al. (1996) and are based on the IUCN (The World Conservation Union) Red List Categories (IUCN 2001), CITES (Convention on International Trade in Endangered Species of Wild Fauna and Flora) Criteria for Amendment of Appendices I and II (Res. Conf. 9.24) (CITES 2000) and the Natural Heritage Programs and Conservation Data Centres of NatureServe.



Massasauga © Ryan M. Bolton

Swift Fox © Lu Carbyn